# Digital Libraries and Prospects of a Programme on Technology-Enhanced Learning in Africa

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**SOUTH ASIA DEVELOPMENT GATEWAY**

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# Outline

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# Introduction

- **The National Program on Technology Enhanced Learning (NPTEL) in India I**
- **Multimedia based courses with high potential of interactivity.**
- **A viable option for both the developed and the developing nations**
- **Creative option for faculty.**
- **Enhance the on-and off-campus learning experience**
- **Delivery of courses and sharing expertise among faculty in different parts of the world.**
- **Competitiveness of industry in the global markets**
- **Quality and reach of engineering education.**
- **High quality learning material available to students of engineering institutions**
- **110 new courses and 109 existing courses encapsulated in digital video format) and web-based e-courses (129).**
- **A potential initiative for African countries and institutions**

# NPTEL (India) Strategy

- Quality of engineering education - Video and web courses.

- 1998: India – USA exploration of TEL

- 1999: IIT, Madras and Carnegie Mellon University, USA

- Transforming a country into a vibrant knowledge economy

- NPTEL thrust areas: i) higher education, ii) professional education, iii) distance education and iv) continuous and open learning

- NPTEL and OCW (Open Courseware by MIT)

- Implementation Strategy F:\Baharul_ ICADLA_June09_Pictures.ppt

- Content organization

- Industry needs

- Courses in subjects - well structured on fundamental concepts

- Training, comprehension and analytical skills

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# NATIONAL PROGRAMME ON TECHNOLOGY ENHANCED LEARNING

### A JOINT VENTURE BY INDIAN INSTITUTES OF TECHNOLOGY & INDIAN INSTITUE OF SCIENCE

**NPTEL**

FUNDED BY
THE MINISTRY OF HUMAN RESOURCE DEVELOPMENT
GOVERNMENT OF INDIA

About NPTEL

FAQ

Contact us

NPTEL Courses

The main objective of NPTEL program is to enhance the quality of engineering education in the country by developing curriculum based video and web courses. This is being carried out by seven IITs and IISc Bangalore as a collaborative project. In the first phase of the project, supplementary content for 129 web courses in engineering/science and humanities have been developed. Each course contains materials that can be covered in depth in 40 or more lecture hours. In addition, 110 courses have been developed in video format, with each course comprising of approximately 40 or more one-hour lectures. In the next phase other premier institutions are also likely to participate in content creation.
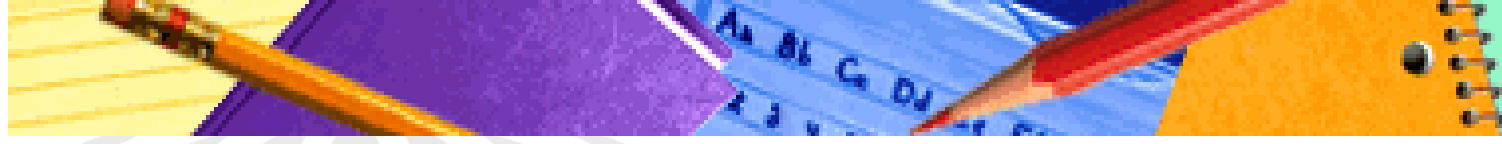
### Whats New

- 1-July-2009 - Video Course on Mathematics II Updated 8 Videos.
- 26-June-2009 - Video Course on Mathematics III added.
- 23-June-2009 - Video Course on Material Science added.
- 23-June-2009 - Video Course on Classical Physics Updated 10 videos.
- 23-June-2009 - Video Course on Communication Engineering added.
- 19-June-2009 - Video Course on Computer Aided Design added.
- 18-June-2009 - Web Course on Mechanics of Solids Updated.
- **FAQ** - How do **Institutions** access NPTEL contents?
- **FAQ** - How do **Individuals** access NPTEL contents?

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| Branch | Web | Video |
|---|---|---|
| Basic Courses (Sem I & II) | 16 | 13 |
| Civil Engg | 25 | 13 |
| Computer Science & Engg | 22 | 17 |
| Electrical Engg | 16 | 20 |
| Electronics & Communication Engg | 20 | 20 |
| Mechanical Engg | 27 | 15 |
| Ocean Engg | | 1 |
| Biotechnology | | 2 |
| Total | 126 | 101 |

We thank **Google** and **youTube** for supporting us in distributing the NPTEL Video courses. The video lectures can be directly accessed at

ICADLA-1 2009 : Islam

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# Security and Privacy Issues

- **Privacy and data protection are crucial factors for any technology-enhanced learning applications**

- **Relaxed regulatory or legal environment or "data heavens" is a challenge**

- **Security and privacy problems concern all the stakeholders – developers, content providers, archives, system administrators, and the end users.**

- **Secure storage of both content and learner data**

- **Security and privacy requirements also differ in different learning settings or learning environments.**

# Digital Library and Technology Enhanced Learning

- Creation of a digital library of learning resources or a consortium of digital libraries across Africa
- Increase competitiveness of the region's industry in the global markets
- The target group
- Make video lectures in a format appropriate for broadcasting
- Create web-based (e-learning) material
- Create a common web portal the digital library activity.
- Make e-learning material available in the web for the video lectures
- Advise target institutions
- NPTEL in India works through Partner Institutions (PI) and Associate Partner Institutions (API)

# Delhi Declaration of the India-Africa Forum Summit in April 2008



**Africa and India will collaborate in the** *"…in the development and production of teaching and learning materials, including equipment for teaching science and technology and textbooks, especially for universities…Collaboration in designing and implementation of Open and Distance Education/Learning Programs with attendant capacity building for personnel required, such as teachers and ICT technicians"*

# Action Plan

- DRAW a tentative Action Plan for a Digital Library consortium for technology-enhanced learning in Africa, in line with NPTEL of India
- Joint platform of African Institutions or Libraries.
- Ensure inter-institutional coordination at the regional level
- Faculty from different institutions, departments and centres.
- Technical assistance to develop expertise
- Courses developed under the NPTEL project in India
- Upgrading of the existing facilities for video recording
- TV channels and streaming the content through video server
- Primary target group
- Support materials /good textbooks

# Challenges for Africa

- African public policies and priorities to develop a system of TEL
- Learning through technology based on solid research and evaluation.
- Developing and sharing subject content and expertise across continents can be both time-consuming and expensive.
- The infrastructure for learning technologies in African higher education institutions is weak in many respects.
- Faculty members do not generally have access to adequate computers.
- Many libraries and classrooms do not have sufficient computer resources
- Dedicated funds, tax policy changes,
- Intellectual property policies that balance the needs of users and creators will be critical to the ongoing development of technology enhanced learning in Africa
- National copyright laws must assure that fair dealing and other statutory exceptions for educational and library uses apply in the digital environment

# Conclusions

- **Preparing the African for the future will require new knowledge, new skills, new approaches and new attitudes.**

- **Course contents created so far by the Indian initiative NPTEL will be useful for teacher training and through them improve the quality of instructions in Africa.**

- **A similar initiative in Africa will incorporate feedback and evaluation by the users and continuously update the course contents for the next generation**

# *THANK YOU*



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